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Substitute Toriginal 449 APTO				Application Number	10/646,970
INFO	ORMATION D	ISCLO	OSURE	Filing Date	August 21, 2003
	TEMENT BY			First Named Inventor	Carol J. Phelps
O I I I	STATEMENT DI ATTEICANT			Group Art Unit	1632
(use as many sheets as necessary)				Examiner Name	Joseph T. WMagglalene Sgagias/
Sheet	1	of	10	Attorney Docket Number	10758.105009 REV 1004

10758 105009 REV 1004 1st Form 1449 Fina .DOC U.S. PATENT DOCUMENTS U.S. Patent Document Date of Publication of Pages, Columns, Lines, Where Name of Patentee or Applicant of Cited Examiner Cite Number Kind Code Cited Document Relevant Passages or Relevant Initials 4 No. 1 Document MM-DD- YYYY Figures Appear (if known) MS 4,797,368 Carter et al. 01-10-1989 AA Α 4,863,852 AB A Wilkins et al. 09-05-1989 5,175,383 A Leder et al. 12-29-1992 AC AD 5,354,768 A Terada et al. 10-11-1994 ΑE 5,474,935 A Chatterjee et al. 12-12-1995 Wheeler AF 5,523,226 A 06-04-1996 AG 5,681,731 A Lebkowski et al. 10-28-1997 AΗ 5,714,353 A Pathak et al. 02-03-1998 5,821,117 Sandrin et al. 10-13-1998 ΑI A AJ 5,849,991 A d'Apice et al. 12-15-1998 Sequence 8 ΑK 5,850,004 A MacMicking et al. 12-15-1998 AL 5,922,601 A Baetscher et al. 07-13-1999 AM 5,942,435 Α Wheeler 06-06-1995 AN 6,153,428 A Gustafsson et al. 11-28-2000 ΑO 6,235,969 Bi Stice et al. 05-22-2001 AP 6,258,998 Bl Damiani et al. 07-10-2001 BI AQ 6,331,658 Cooper et al. 12-18-2001 AR 2001/0055584 McKenzie et al. 12-27-2001 A1 AS 6,413,769 **B**1 Gustafsson et al. 07-02-2002 AT 6,455,037 B1 Ioannou et al. 09-24-2002 ΑÜ 2002/0031494 Sandrin et al. 03-14-2002 A1 A۷ 2002/0152488 10-17-2002 A1 Cooper et al. AW 2003/0014770 **B1** Gustafsson et al. 01-16-2003 AX 2003/0203427 A1 Koike 10-30-2003 ΑY 6,849,448 BI D'Apice et al. 02-01-2005 ΑZ 2005/0120400 06-02-2005 A1 Day et al.

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MS -	AAA	EP	0669829	B1	Biotransplant, Inc.	08-08-2001		Π	
MS	AAB	JР	1994-253856	A1	MASAYA et al.,	09-13-1994	Seq 1D No.1 Alignment	Π	
MS	AAC	wo	94/02616	A1	Regents of Univ. of Michigan	02-03-1994			

Examiner Signature	/Magdalene	Sgagias/	Date Considered	01/10/2007

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MS	BA	wo	94/09803	A1	Biotransplant Inc.	05-11-1994		
	BB	WO	94/21799	A1	Austin Research Inst.	09-29-1994		
	BC	wo	94/24870	A1	Biotransplant, Inc.	11-10-1994		
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		OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS	
Examiner Initials *	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T 6
MS	CA	AYARES, D., et al., (PPL Therapeutics, Inc.), "Gene targeting in livestock," Transgenic Animal Research Conference (hosted by Univ. of Calif. at Davis biotechnology program, at the Granlibakken Conf. Ctr. in Tahoe City, CA, July 1999 [http://www.biotech.ucdavis.edu]), abstract at p. 20.	
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	СК	CAPECCHI, M.R., et al., "Altering the genome by homologous recombination," Science, 244(4910):1288-1292 (June 16, 1989).	
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10758 105009 REV 1004 1st Form 1449 Fina_.DOC OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, Examiner Cite Initials * journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. DABKOWSKI, P.L., et al., "Characterisation of a cDNA clone encoding the pig alpha 1,3 MS galactosyltransferase: implications for xenotransplantation," Transplant Proc., 25(5):2921 (October DA DABKOWSKI, P.L., et al., "Isolation of a cDNA clone encoding the pig alpha 1,3 DB galactosyltransferase," Transplant Proc., 26(3):1335 (June 1994). DAI, Y., et al., "Targeted disruption of the α1,3-galactosyltransferase gene in cloned pigs," Nature DC Biotechnology, 20:251-255 (March 2002). DALMASSO, A.P., et al., "Inhibition of complement-mediated endothelial cell cytotoxicity by decayaccelerating factor: Potential for prevention of xenograft hyperacute rejection," Transplantation, DD 52(3):530-533 (Sept. 1991). DALMASSO, A.P., et al., "Reaction of complement with endothelial cells in a model of DE xenotransplantation," Clin. Exp. Immunol., 86:31-35 (1991), D'APICE, A.J., et al., "Two genetic approaches to the galactose alpha 1,3 galactose xenoantigen," Transplant Proc., 28(2):540 (April 1996). DENNING, C., et al., "Gene targeting in primary fetal fibroblasts from sheep and pig," Cloning Stem DG Cells, 3(4):221-231 (2001). DENNING, C., et al., "Deletion of the α(1,3)galactosyl transferase (GGTA1) gene and the prion protein DH (PrP) gene in sheep," Nature Biotechnology, 19:559-562 (June 2001). FABRE, J.W., "Nudging xenotransplantation towards humans," Nature Med., 1(5):403-404 (May 1995). DI GALILI, U., "The α-gal epitope (Galα-3Galβ-4GlcNAc-R) in xenotransplantation," Biochimie, 83:557-DJ 563 (2001). · GALILI, U., et al., "Evolution and pathophysiology of the human natural anti-alpha-galactosyl IgG DK (anti-Gal) antibody," Springer Semin. Immunopathol., 15(2-3):155-171 (1993). GALILI, U., et al., "Evolutionary relationship between the natural anti-Gal antibody and the Gal alpha DL 1----3Gal epitope in primates," Proc. Natl. Acad. Sci., USA., 84(5):1369-1373 (March 1987). GALILI, U., et al., "Human natural anti-alpha-galactosyl IgG. II. The specific recognition of alpha (1----DM 3)-linked galactose residues," J. Exp. Med., 162(2):573-582 (August 1, 1985). GALILI, U., et al., "Man, apes, and old world monkeys differ from other mammals in the expression of DN α-galactosyl epitopes on nucleated cells," J.Biol.Chem., 263(33):17755-17762 (Nov. 25, 1988). GASSMANN, M., et al., "Maintenance of an extrachromosomal plasmid vector in mouse embryonic DO stem cells," Proc. Natl. Acad. Sci. USA, 92(5):1292-1296 (February 28 1995). GASTINEL, L.N., et.al., "Bovine a1,3-galactosyltransferase catalytic domain structure and its relationship with ABO histo-blood group and glycosphingolipid glycosyltransferases," EMBO Journal, DP 20(4):638-649 (2001).

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Sheet	5	of	10	Attorney Docket Number	10758.105009 REV 1004	

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	EE	HASTY, P., et al., "The length of homology required for gene targeting in embryonic stem cells," Mol. Cell Biol., 11(11):5586-5591 (November 1991).	
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	EG	HENNET, T., "The galatoxyltransferase family," Cell. Mol. Life Sci., 59:1081-1095 (2002).	\sqcap
	ЕН	JOYNER, A.L., "Production of a mutation in mouse En-2 gene by homologous recombination in embryonic stem cells," <i>Nature</i> , 338(6211)::153-156 (March 9, 1989).	
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V	EN	KATAYAMA, A., et al., "Porcine α-1,3-galactosyltransferase: full length cDNA cloning, genomic organization, and analysis of splicing variants," Glyconjugate Journal, 15:583-589 (1998).	

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Substitute	: 101 101111 144970 110			Application Number	10/646,970	
INFO	DRMATION D	ISCLO	OSURE	Filing Date	August 21, 2003	
STATEMENT BY APPLICANT				First Named Inventor	Carol J. Phelps	
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MS I	FA	KELLY, R.J., et al., "Sequence and expression of a candidate for the human Secretor blood group alpha (1,2)fucosyltransferase gene (FUT2). Homozygosity for an enzyme-inactivating nonsense mutation commonly correlates with the non-secretor phenotype," J. Biol. Chem., 270(9):4640-4649 (Mar. 3, 1995).	
	FB	KILBY, N.J., et al., "Site-specific recombinases: tools for genome engineering," Trends in Genetics, 9(12):413-421 (December 1993)	
	FC	KOIKE, C., et al., "Comparison of the regulatory regions of the of α1,3galactosyltransferase gene between murine and porcine species," Transplantation Proceedings, 33:710-711 (2001).	
	FD	KOIKE, C., et al., "Direct gene replacement of the mouse $\alpha(1,3)$ -galactosyltransferase gene with human $\alpha(1,2)$ -fucosyltransferase gene: Converting α -galactosyl epitopes into H antigens," Xenotransplantation, 4:147-153 (1997).	
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	FG	KOIKE, C., et al., "Molecular basis of evolutionary loss of the α1,3-galactosyltransferase gene in higher primates," J. Biol. Chem., 277(12):10114-101120 (March 22, 2002).	
	FH	LAI, L., et al., "Production of α-1,3-galactosyltransferase knockout pigs by nuclear transfer cloning," Science 295:1089-1092 (February 8, 2002) and supplementary data, Science Express, January 3, 2002.	
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STATEMENT BY APPLICANT			•	First Named Inventor	Carol J. Phelps	
				Group Art Unit	1632	
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